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Navy's Efforts to Develop an Integrated Disbursing and Accounting System

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Information Management and
Technology Division

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The Honorable John Conyers, Jr.
Chairman, Committee on Government Operations
House of Representatives

Dear Mr. Chairman:

On September 28, 1988, the former chairman of your Legislation and National Security Subcommittee requested that we provide information on the cost of the Department of the Navy's Integrated Disbursing and Accounting Financial Information Processing System (IDA). In subsequent discussions, we agreed to provide (1) a description of IDA and the acquisition approach being followed, (2) the current status of the system, (3) a description of the cost growth and a comparison of current cost estimates with information provided in budget exhibits to the Congress, (4) the reasons for the cost growth, and (5) a description of actions taken by the Office of the Secretary of Defense (OSD) and the Navy to control costs. To expedite our reply, it was also agreed that we would not independently verify cost information or the reasons for the cost growth identified by OSD and Navy officials.

System Description and Status

The development of IDA, started in the mid-1970s, is intended to integrate the Navy's separate disbursing and accounting records to ensure that accounts payable and obligations are recorded before commercial payments are authorized. IDA will replace 14 separate systems that currently record the bulk of the Navy's operation and maintenance, and reserve personnel appropriations. The Navy has determined that these existing systems do not comply with the Federal Managers' Financial Integrity Act, as they contain untimely and inaccurate accounting data. Navy program officials believe IDA will resolve these deficiencies and comply with the act.

As of December 1988, the IDA project manager estimated that system development was about 75 percent complete. According to a 1988 economic analysis, about $90 million had been spent for system development. Navy planning documents estimate that system deployment will begin in October 1989, and be completed in 1992.

Reasons for Cost Growth

As a result of the Subcommittee's September 13, 1988, hearing on the Navy's Standard Automated Financial System, IDA was one of seven automated information systems identified by OSD as experiencing significant cost growth. OSD identified an increase of approximately $76 million in IDA's cost estimate—from $91.4 million to $167 million. The $91.4 million figure represents a December 1983 estimate of the cost to develop and deploy IDA. The $167 million figure is based on a July 1987 estimate of $178.7 million to develop and deploy the system. The $11 million difference between this estimate and the $167 million estimate provided by OSD represents a potential cost reduction that would result from using existing regional data centers in lieu of constructing new sites.

Navy documents and IDA project officials attribute the reported cost growth to problems with the system's development, primarily (1) a failed attempt to extensively modify an existing system, and (2) failure of a fourth generation, self-documenting computer language because it proved unsuited for large-scale system development. Also, according to a September 1988 Naval Audit Service Report,[1] IDA development has continued to progress without adequate documentation, resulting in questionable and uneconomical decisions.

In July 1987, a Navy planning document estimated IDA's life cycle costs at $878.8 million—$178.7 million to develop and deploy the system, and $700.1 million to operate and maintain it through the year 2006, its expected useful life. However, the amended fiscal year 1988/1989 budget submission to the Congress identified IDA's life cycle costs at $91.4 million—the 1983 estimate for development and deployment costs only. Naval Data Automation Command officials, and the IDA project manager, told us the congressional budget submission did not show the higher life cycle cost estimate because it was not officially approved by senior Navy staff.

Efforts to Control Cost Growth

According to the Navy, it has taken several steps to control costs including: (1) hiring a project officer in 1986 with a strong background in data processing, systems development, and project management to direct IDA development; (2) reorganizing the Navy Accounting and Finance Center

[1]U.S. Navy, Development of the Automated Integrated Disbursing and Accounting Financial Management System at the Navy Accounting and Finance Center and Navy Comptroller Standard Systems Activity (133-S-88), Sept. 7, 1988.

to assign all financial management system development efforts (including IDA) to a member of the Senior Executive Service; and (3) publishing an IDA project charter, in August 1987, that assigns responsibilities and accountability to top-level staff responsible for system development.

The IDA project has not been reviewed by OSD's Major Automated Information System Review Council (MAISRC), as the system's officially approved cost estimate did not exceed $100 million. Organized in the late 1970s, MAISRC is the senior Department of Defense management oversight body responsible for reviewing major resource investments in general-purpose, automated data processing systems during development. Representing the Secretary of Defense, the Council—which is comprised of senior OSD officials—decides whether system development efforts should continue or be terminated. According to a November 22, 1988, memo from the Comptroller of the Department of Defense, IDA is scheduled for its first MAISRC review in February 1989.

According to the IDA project manager, there are a number of factors that could still delay initial system deployment. For example, if the number of sites to which IDA will be deployed changes as a result of a new economic analysis, deployment plans will have to be revised. The system is also scheduled for its sixth system demonstration test in spring 1989, and operational testing and evaluation during July and August 1989. Major problems encountered during these tests will need to be corrected prior to deployment.

Detailed information regarding our review of IDA is contained in appendix I, and our objectives, scope, and methodology are discussed in appendix II. We performed our work from October to December 1988. As agreed, we did not obtain official agency comments on a draft of this report. However, we discussed its contents with cognizant OSD and Navy staff and have incorporated their comments where appropriate.

As arranged with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from its issue date. We will then send copies to the Chairmen, Senate Committee on Governmental Affairs, and Senate and House Committees on Appropriations; the Director, Office of Management and Budget; and the

Secretaries of Defense and the Navy. We will also make copies available to others on request.

The major contributors to this report are listed in appendix III.

Sincerely yours,

Ralph V. Carlone
Assistant Comptroller General

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Abbreviations

GAO	General Accounting Office
IDA	Integrated Disbursing and Accounting Financial Information Processing System
IMTEC	Information Management and Technology Division
MAISRC	Major Automated Information System Review Council
OSD	Office of the Secretary of Defense

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System Development Delays Have Increased Costs

The Navy's development of an integrated financial system began in the mid-1970s, and as of December 1988, the project manager responsible for the Integrated Disbursing and Accounting Financial Information Processing System (IDA) estimated that system development was about 75 percent complete. Navy planning documents estimate that system deployment will begin in October 1989, and be completed in 1992. About $90 million has been spent on system development, and Navy estimates of the cost to develop and deploy IDA have increased from $91.4 million in 1983, to $167 million in 1988. Navy documents and IDA program officials attribute the increased costs to develop and deploy IDA to system design failures that created delays in system development. When costs to operate and maintain the system throughout its useful life are included, IDA's life cycle cost is estimated at approximately $879 million.

Navy's Approach for Developing an Integrated Disbursing and Accounting System

In simplest of terms, IDA is intended to serve as the centralized checkbook for the bulk of the Navy's operation and maintenance, and reserve personnel appropriations. The system will integrate separate disbursing and accounting records to ensure that accounts payable and obligations are recorded before commercial payments are authorized. The 14 automated support systems that currently handle these appropriations have been identified by the Navy as noncompliant with the Federal Managers' Financial Integrity Act, as they contain inaccurate and untimely accounting data. The Navy believes that IDA, when completed, will correct these deficiencies and comply with the act.

IDA incorporates four subsystems. The Financial Management System is IDA's major subsystem, and it will be the standard, Navy-wide accounting and disbursing financial management system for shore activities. This subsystem will be used to account for the operating budgets and allotments of over 600 shore activities.

IDA's second subsystem, the Financial Management System for the Operating Forces, is designed to perform accounting for over 1400 units (ships, squadrons, and activities) of the operating forces of the Navy. In 1986, the decision was made to accelerate this subsystem and merge it with IDA's Financial Management System, thereby consolidating accounting for both shore and off-shore activities in one major subsystem. As of December 1988, development of this major subsystem was estimated by IDA's project manager to be about 90 percent complete.

The two remaining subsystems—IDA's Financial Reporting System and Claimant Accounting Module—are designed to summarize data and

standardize reports. Development of these subsystems has not progressed at the same pace as IDA's major subsystem for shore and offshore activities. As a result, the project manager estimates that development of the entire IDA project is about 75 percent complete.

The concept of an integrated financial system has been incorporated in Navy automated information system plans since the mid-1970s. The current IDA development effort began in May 1982, when the Navy Comptroller Standard Systems Activity was established as the Central Design Agency in Pensacola, Florida, to design, develop, implement, operate, and maintain standard Navy financial systems.

Overall responsibility for IDA is charged to a project manager in the Navy's Accounting and Finance Center in Washington, D.C., while system development is the responsibility of the project officer at the Central Design Agency in Pensacola, Florida. The Agency's federal employees are supplemented by staff from a number of contractors responsible for a variety of IDA development activities.

At one time, the Navy pursued the idea of using an existing system—the Naval Education and Training Financial Management System—to consolidate the 14 systems. However, it was decided that the system was too difficult to upgrade and expand. IDA program officials told us that other services' financial management systems were considered, but not adopted, because each service's needs are unique, and accounting policy is not standardized.

Problems Encountered in System Development Have Created Implementation Delays

According to Navy documents, the functional description for the IDA system has not changed significantly over time, but the system has experienced several developmental problems. Two false starts, and differing deployment strategies have led to a 4-year delay in system implementation—from 1985 to 1989—and full deployment is not expected until 1992. Also, according to a September 1988, Naval Audit Service Report,[1] IDA development has continued to progress without adequate documentation, resulting in questionable and uneconomical decisions.

In a December 1983 automated data system plan, the Navy anticipated that deployment of IDA would begin in June 1985. Initially, a 2-year slippage occurred as a result of the Navy's attempt to extensively modify an existing system rather than develop a new system design. In October 1985, the Navy restarted its development effort with a new implementation target date of October 1987. To expedite the development process, the Navy decided to use a "stairstep approach," whereby a total of 380 uniquely identifiable work units would be systematically designed and programmed.

In May 1986, another delay occurred as the result of abandoning a computer language that was determined to be inadequate for a project as large and complex as IDA.[2] The Navy reverted to the use of Common Business Oriented Language, and program officials estimate that the change delayed system development about 2 years.

In February 1987, the Comptroller of the Navy prescribed a Uniform Chart of Accounts for all Navy appropriations and funds. Incorporating this change in IDA development resulted in retargeting system implementation for April 1989. The implementation schedule slipped by an additional 6 months as a result of June 1988 Navy budget cuts. The current implementation target is October 1989, and full deployment of the system to all locations is expected by 1992.

In response to a House Appropriations Committee recommendation, the Navy is analyzing the use of existing facilities at Navy Regional Data Automation Centers in lieu of constructing new sites. According to Navy staff, the economic analysis being prepared will be based on the Navy's

[1]U.S. Navy, Development of the Automated Integrated Disbursing and Accounting Financial Management System at the Navy Accounting and Finance Center and Navy Comptroller Standard Systems Activity (133-S-88), Sept. 7, 1988.

[2]Logical and Information Network Compiler, a fourth-generation, programming/self-documenting computer language.

use of three regional centers, which may again modify the implementation schedule.

Cost Estimates Have Increased

As a result of a September 1988 Subcommittee hearing on the Navy's Standard Automated Financial System, the Office of the Secretary of Defense (OSD) reported that IDA's cost estimate had increased by about $76 million—from $91.4 million to $167 million. The $91.4 million figure represents a December 1983 estimate of the cost to develop and deploy IDA. In a July 1987 planning document, the estimate was increased to $178.7 million as a result of the system design failures discussed earlier. The $11 million difference between this estimate and the $167 million estimate provided by OSD represents a potential cost reduction that would result from using existing regional data centers in lieu of constructing new sites. The Navy is conducting an economic analysis, expected to be completed in January 1989, to quantify the actual cost reduction.

Although cost estimates for IDA have increased, the fiscal year 1988/1989 budget exhibits, exhibit 43A, provided to congressional appropriations staff, list IDA's life cycle costs as $91.4 million, the same estimate contained in the Navy's December 1983 automated data systems plan. Navy budget analysts told us this estimate is used because it was the last budget estimate officially approved by top Navy staff.

In a 1988 economic analysis, the Navy reported that about $90 million had been spent on system development, and a July 1987 system decision paper estimated that IDA's life cycle costs through the year 2006 will amount to $878.8 million. As of December 1988, the Naval Data Automation Command had not approved the $878.8 million estimate.

Table I.1 presents the December 1983 and July 1987 cost estimates.

Table I.1: Cost Estimates for IDA, 1983 and 1987

Dollars in thousands

	Estimated Cost December 1983	Estimated Cost July 1987
Cost to Develop and Deploy		
Development costs	$67,380	$143,397
Investment costs[a]	24,018	35,325
Total cost	**$91,398**	**$178,722**
Operational Costs		
Operating costs	$0	$637,636
Equipment replacement costs		62,477
Total cost	**$0**	**$700,113**
Total Life Cycle Cost	**$91,398**	**$878,835**

[a]Also known as acquisition or procurement cost.

As shown in table I.1, estimates for the operational phase of IDA include estimates for data processing equipment replacement. According to the Navy's 1987 System Decision Paper, replacement of hardware, software, and telecommunications equipment in the mid-1990s—at a cost of about $62.5 million—is required to accommodate growth in IDA system requirements, replace aging technology, and ensure adequate maintenance and technical support throughout the life of the system.

OSD Has Assumed Oversight Responsibility for IDA

OSD guidance, established in the late 1970s, provides that the oversight of automated information systems may be delegated to service components, and such authority once applied to IDA. However, because IDA experienced cost growth of more than 25 percent, and program slippage of more than 6 months, the delegation of authority was revoked in November 1988, thereby subjecting the system to oversight by OSD's Major Automated Information System Review Council (MAISRC). Representing the Secretary of Defense, the Council, which is made up of senior OSD officials, is responsible for reviewing major resource investments in general purpose, automated data processing systems during the development cycle, and deciding which systems should continue or be terminated. According to a November 22, 1988, memo from the Comptroller of the Department of Defense, IDA is scheduled for its first MAISRC review in February 1989.

According to the IDA Project Manager, the Navy has taken several steps to control costs, including:

- conducting a Consolidated Systems Evaluation in 1987;
- hiring a project officer for the Central Design Activity in Pensacola in 1986, with a strong background in data processing, automated information systems development, and project management to direct the development of IDA;
- reorganizing the Navy Accounting and Finance Center in Washington, D.C., and placing all financial management system development efforts, including IDA, under a Systems Directorate headed by a member of the Senior Executive Service; and
- publishing an IDA project charter, in August 1987, that fixes responsibilities and accountability of top-level staff responsible for system development.

IDA Faces Several Milestones Prior to Deployment

Navy officials currently responsible for the development and deployment of IDA recognize that initial development efforts experienced limited success, but believe the current approach will be successful. These officials also recognize that more progress must be made before the Navy's concept of an integrated disbursing and accounting system can be realized.

As discussed earlier, the Navy is using a stairstep approach to develop IDA. Of the 380 uniquely identified work units to be incorporated into the system, 345—about 91 percent—have been designed and programmed. To date, the Navy has conducted five of six scheduled system demonstration tests to demonstrate the functional performance of the system to users. The sixth system demonstration test is scheduled for spring 1989.

IDA is also scheduled for operational testing and evaluation in July and August 1989. The purpose of operational testing is to ensure that the system will function correctly in an operating environment, in this case, at Atlantic Fleet Headquarters in Norfolk, Virginia.

In addition to the February MAISRC review, a new economic analysis—based on the Navy's proposed use of existing regional data center facilities in lieu of constructing new sites—is expected to be completed in January 1989. The project manager pointed out that if major problems are encountered during final testing and OSD review, system implementation and deployment may be further delayed.

Objectives, Scope, and Methodology

We prepared this report at the request of the former Chairman, Subcommittee on Legislation and National Security, House Committee on Government Operations. The September 28, 1988, request asked that we determine the cost of the Navy's Integrated Disbursing and Accounting Financial Information Processing System. In subsequent discussions, we agreed to provide a description of the system and the acquisition approach being followed, the current status of the system, a description of the cost growth and a comparison with information submitted in budget requests, reasons for cost growth, and actions taken by OSD and the Navy to control costs.

We reviewed an internal Navy audit report on the project, system life cycle management documentation, system testing documents, relevant budget and planning documents, and correspondence to obtain background information regarding the system's description, purpose, development and deployment strategies, implementation problems, and cost growth. We also reviewed applicable Defense and Navy directives and instructions governing information system acquisitions.

We discussed the system's status and estimated cost with the project manager and his staff at the Navy Accounting and Finance Center; budget staff of the Naval Data Automation Command; and MAISRC representatives in OSD. We visited the Navy Comptroller Standard System Activity in Pensacola, Florida, and received a detailed briefing from the project officer and his staff on the system's development history and current status. We also met with the House Appropriations Committee Surveys and Investigations staff to discuss their review of the IDA system. We did not independently verify the cost data and reasons for cost growth provided by OSD and the Navy.

We discussed the facts in this report with the IDA project manager and a representative of MAISRC, and have incorporated their comments where appropriate. As agreed, we did not obtain official agency comments on a draft of the report. We performed our work from October to December 1988.

Major Contributors to This Report

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